The type specimens of recent molluscs described by ANTON (1837 and 1838): 8. Ostreidae, Cardiidae, Tellinidae, and Mactridae

Huber, M ; Schniebs, K

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The type specimens of recent molluscs described by Anton (1837 and 1838): 8. Ostreidae, Cardiidae, Tellinidae, and Mactridae

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> Abstract

This paper presents for the first time the types of *Ostrea imputata*, *Cardium leve*, *Tellina divergens*, *Tellina palliderosea,* and *Mactra cojimbensis* described by H. E. Anton (1837 and 1838). All types are unambiguous and conform to the original diagnosis. *Vepricardium leve* (Anton, 1838) is a valid earlier name for *V. multispinosum* (G. B. Sowerby II, 1839) which is the type species of *Vepricardium* Iredale, 1929. *Tellina s. l. palliderosea* Anton, 1838, is the valid, earlier name for the well known South African *T. alfredensis* Bartsch, 1915. *Tellinella divergens* (Anton, 1838) is the valid earlier name for *T. exculta* Gould, 1850, known from Australia and Melanesia, and for *T. flammula* Deshayes, 1855, from unknown locality. *Mactra cojimbensis* (Anton, 1837) is a junior synonym. The true identity of *Ostrea imputata* is as yet unknown.

> Kurzfassung

Typenexemplare von Anton (1837 und 1838) beschriebener rezenter Mollusken: 8. Ostreidae, Cardiidae, Tellinidae, and Mactridae. – Die vorliegende Arbeit zeigt zum ersten Mal das Typenmaterial von *Ostrea imputata*, *Cardium leve*, *Tellina divergens, Tellina palliderosea* und *Mactra cojimbensis*, beschrieben von H. E. Anton (1837 und 1838). Alle Typenexemplare sind unzweifelhaft und stimmen mit den Originalbeschreibungen überein. *Vepricardium leve* (Anton, 1838) ist ein gültiger, älterer Name für *V. multispinosum* (Sowerby II, 1839), den Genotypen von *Vepricardium* Iredale, 1929. *Tellina s. l. palliderosea* (Anton, 1838) ist der gültige frühere Name für die bekannte südafrikanische *T. alfredensis* Bartsch, 1915. *Tellinella divergens* (Anton, 1838) ist der gültige frühere Name für *T. exculta* Gould, 1850 von Australien und Melanesien sowie für *T. flammula* Deshayes, 1855 von unbekannter Lokalität. *Mactra cojimbensis* (Anton, 1837) ist ein Synonym. Die wahre Identität von *Ostrea imputata* ist noch ungelöst.

> Key words

Ostrea imputata, *Cardium leve, Vepricardium*, *Tellina divergens*, *T. palliderosea*, *Tellinella*, *Mactra cojimbensis*, *Mulinia*.

Introduction

Due to the peculiar inventory method used by Dr. Johannes Thiele at the end of the 19th century (Schniebs 1995) it is quite difficult to find the type material of Hermann Eduard Anton. This is hidden in the malacological collection of the Zoological Museum Dresden (Museum für Tierkunde – MTD).

However, based on Anton's clear original descriptions published in 1838 (Cernohorsky 1977), his hand written inventory and his measurements we finally succeeded in finding the type specimens of five bivalves *Ostrea imputata*, *Cardium leve*, *Tellina divergens*, *Tellina palliderosea* and *Mactra cojimbensis* described by H. E. Anton (1837 and 1838).

Abbreviations

ms – manuscript,
pers. com. – personal communication.

Ostrea imputata Anton, 1838

Fig. 1, A, B, C

p. 20, N° 767

Original description: "1. imputata mihi, rundlich, stark und schwerschalig; obre Schale mit dichtstehenden Lamellen, die an den Rändern völlig membranös sind, untre Schale ebenfalls mit dichten Lamellen, aber zugleich flach gerippt, die beiden Schalen längs des breiten Ligaments durch einen tiefen Einschnitt getrennt; Rinne schmal und lang nach dem sehr seitlichen kleinen Wirbel gehend; hintre Seite am Schloss schwach gezähnelt; Muskeleindruck tief; aussen gelblich weiss, innen weiss, Rand irisierend, graulichweiss. L. 2"7"' Br. 2"2"'. Der eine Muskeleindruck hat einen wulstigen Höcker (was wohl nur individuell ist). So lange das Ligament unverletzt war, konnte die Muschel nicht weiter, als wie die Terebrateln geöffnet werden."
Type locality: unknown
Collection number: MTD Moll 6788 (stored as *Ostrea edulis* L.)
Height of the attached valve: 68,2 mm; length: 61,5 mm.
Height of the upper valve: 61 mm; length: 60 mm.

Ostrea imputata Anton, 1838, described from unknown locality, was identified as the common European *O. edulis* by earlier curators. However, Anton's holotype does not fit European material. Based on morphological traits *imputata* is a true *Ostrea*. Its identity and the original locality have not yet been solved. But *O. imputata* should be compared with the difficult South American ostreids from Venezuela and Columbia, especially with *O. libella* Weisbord, 1964. Although originally described as fossil, the latter was found living by Venezuelan authors.

Cardium leve Anton, 1838

Fig. 2, A, B

p. 11, N° 398

Original description: "2. leve mihi, Form der Gruppe; sehr bauchig; leicht, dünnschalig; Rippen breiter als die Interstizien, und mit Stacheln besetzt; Anus callös; hintre Seite klaffend; blass fleischfarbig. L. 1"8", Br. 1"7"'."
Type locality: China
Collection number: MTD Moll 7484 (stored as *Cardium multispinosum* Sow.)
One complete specimen.
Height of the valves: 45 mm;
Length of the valves: 43.6 mm.

Anton based his description on two specimens of *Cardium leve*. The larger one is lost. The remaining specimen fits Anton's measurements well and is here selected as lectotype.

According to SHERBORN 1922–32 *Cardium leve* Anton, 1838 (though published in 1838 not in 1839) is a valid name, not preoccupied by the fossil *Cardium laeve* Gray, 1838.

Cardium multispinosum G. B. Sowerby II, described from the Philippines, has to be dated as of 1839 (R. Petit, pers. com. 1/09).

The type photos of *Cardium leve* were sent to J. J. ter Poorten, one of the leading global specialists in Cardioidea. He confirmed the assessment without any doubt (pers.com.1/09). According to modern cardiid specialists, Iredale, 1929's Australian type species *Vepricardium*, original designation *V. pulchricostatum* is a junior synonym of *V. multispinosum*.

Vepricardium is Indo-Pacific and South African and encompasses actually 8 species.

Anton's type locality of *leve* falls within the known distribution, ranging from Australia, Indonesia, Thailand, Philippines to Taiwan.

Tellina divergens Anton, 1838

Fig. 3, A, B, C

p. 5, N° 159

Original description: "1. divergens, mihi, oval verlängert, geschnabelt, mit zwei durch einen Wulst getrennten Falten; die rechte Schale matt, unterbrochen quer gestreift (wie bei *T. rugosa*, aber in gerader Richtung) linke glänzend, regelmässig, zum Theil gabelförmig gestreift; Ligament tief liegend; violettroth mit weissen Zonen und Strahlen, Wirbel purpurroth; innen leberbraun, Rand purpurroth, gegen den Wirbel gelb; in der rechten Schale zwei, in der linken ein Hauptzahn, jede Schale zwei Seitenzähne. L. 8"' Br. 1"5"'. (Form wie *latirostra*, aber Falte stärker, Sculptur anders.)"
Type locality: unknown
Collection number: MTD Moll 10785 (stored as *Tellina rastella* Hanl. var. *divergens* Anton)
Height of the valves: 18 mm.
Length of the valves: 39 mm.

Tellina divergens was according to Sherborn validly proposed (though published in 1838 not in 1839), the name is not preoccupied and the holotype is unambiguously available. Also *T. divergens* was erroneously curated. It was long considered the same or a variety of the large *Tellinella rastellum* (Hanley, 1844 (September)) (=*T. philippii* Anton in Philippi,

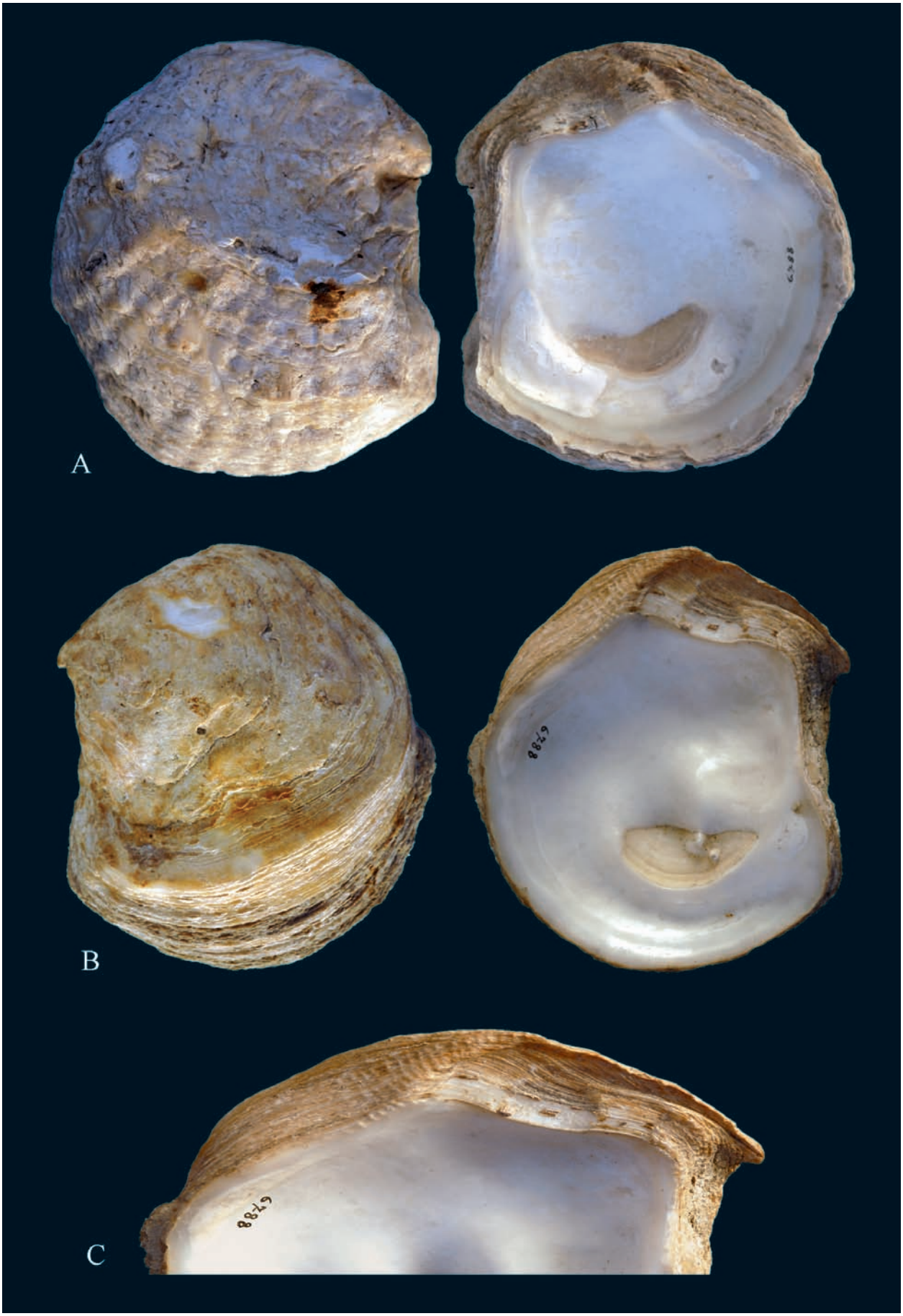

Fig. 1. *Ostrea imputata* Anton, 1838, holotype. **A**: attached valve, height 68,2 mm; **B**: upper valve, height 61 mm; **C**: detail of the hinge area of the upper valve.

Fig. 2. *Cardium leve* Anton, 1838, lectotype. Height of the valves: 45 mm, length of the valves: 43,6 mm; **A**: right valve; **B**: left valve.

1844 (June)), both described from East Africa, Tanzania.

But size, colour, sculpture and pallial sinus do not fit *Tellinella philippii*. Instead these conform well to *Tellinella exculta* (Gould, 1850) described from Fiji and well known from Australia.

Thanks to Ellen E. Strong (Smithsonian Institution, National Museum of Natural History Washington D. C.) we were able to compare Gould's type of *Tellina exculta* with *T. divergens*. Shape, pallial sinus and especially sculpture are identical. Gould's type is a whitish specimen, whereas Anton's holotype is dark coloured. However, *divergens* is variable in colours and whitish, reddish and darker coloured specimens were analyzed from Eastern Australia. Here Australia, Queensland is designated as type locality.

Thanks to Kathie Way (Natural History Museum, London) the 3 syntypes of *Tellina flammula* Deshayes, 1855, described from unknown locality could be compared. Sculpture and pallial sinus leave no doubt that the whitish *T. flammula* is a further synonym of *T. divergens*. This was earlier recognized by LAMPRELL & WHITEHEAD (1992, sp. 293). However, their further synonym *Tellina picta* G. B. Sowerby, 1867, does not match Anton's *divergens*. The type of *Tellina regina* Salisbury, 1934, nom. nov. *T. picta* G. B. Sowerby II, 1867, non Röding, 1798, is instead a further synonym of *Tellinella philippii*.

T. divergens does undoubtedly belong into *Tellinella*, a genus not very close to the mainly Caribbean *Tellina*. *Tellinella divergens* (Anton, 1838) is actually known from tropical Australia and Melanesia, living

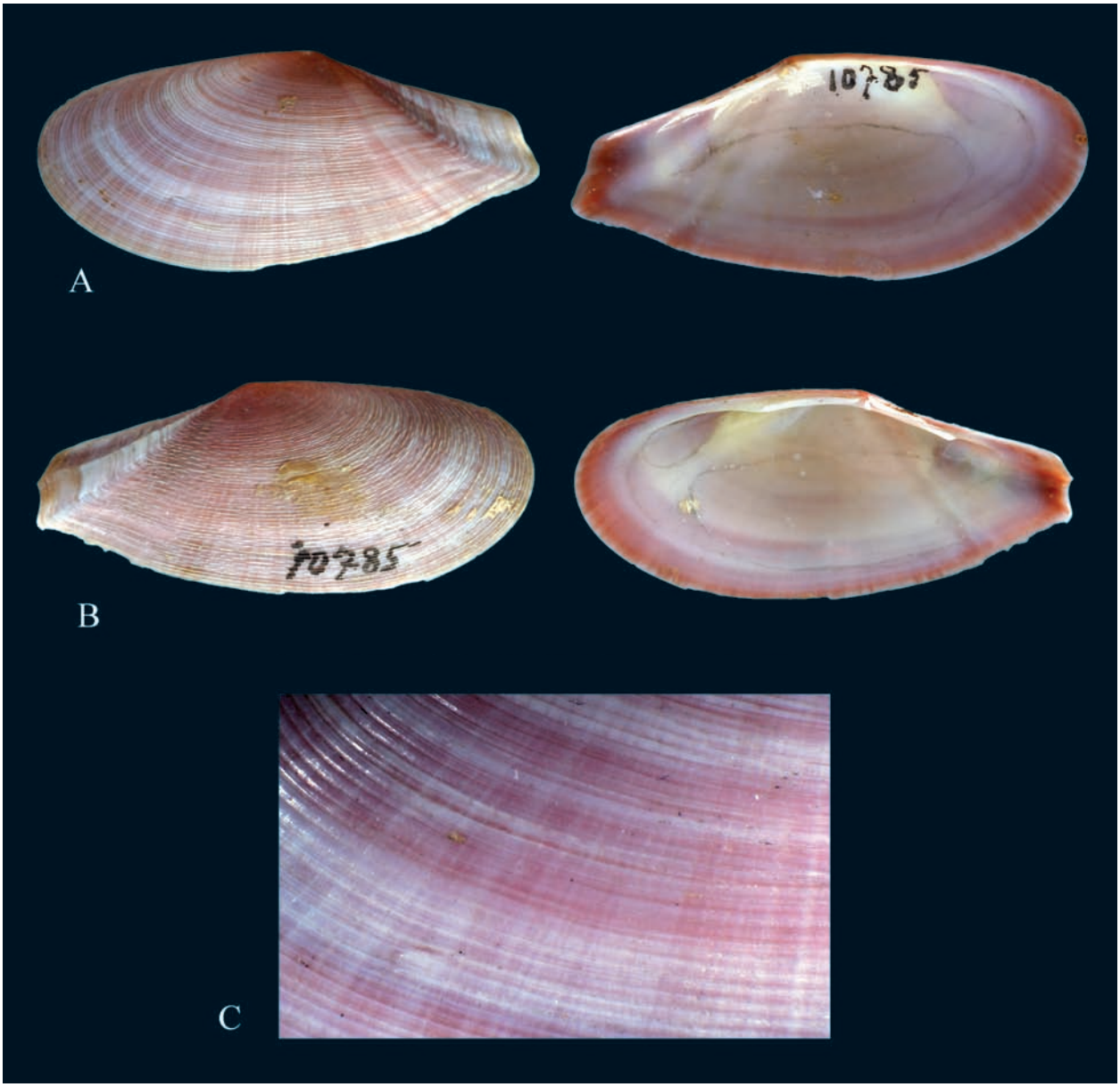

Fig. 3. *Tellina divergens* Anton, 1838, holotype. Height of the valves: 18 mm, length of the valves: 39 mm; **A**: left valve; **B**: right valve; **C**: detail of the sculpture of the left valve.

rather shallow to 10 m, buried in sand or sand and rubble and reaching 60 mm.

Tellina palliderosea Anton, 1838

Fig. 4, A, B

T. pallide-rosea, p. 5, N° 171

Original reference: "Ch. 6. 96."
Type locality: none given
Collection number: MTD Moll 10768
Two right valves (as noticed in Anton's hand-written inventory).
Height of first valve: 35,8 mm; length: 60,6 mm.
Height of second valve: 39 mm; length: 64,2 mm.

This is a very old species with a stunning history and an unsolved generic placement.

Chemnitz (1782) p. 105 tab. 6 10 96 described a quite characteristic pale rose, comparatively large tellinid, "vermuthlich in den ostindischen Gewässern". But Chemnitz' names were unavailable, because the work is non binominal (ICZN 184, 1954). Gmelin (1791) considered this species erroneously within the variability of Linnaeus' *T. rostrata*.

But Spengler (1798) recognized it well as distinct and named it *Tellina rosea*, though erroneously from Nicobar Isl. This name was consistently applied by subsequent authors for more than a century, i.e. Hanley (1846) sp. 30; Sowerby II in Reeve

Fig. 4. *Tellina palliderosea* Anton, 1838, syntypes. **A**: single right valve, height: 35,8 mm; length: 60,6 mm; **B**: single right valve, height: 39 mm; length: 64,2 mm.

(1866) sp. 26 or BERTIN (1878) sp. 261. As such it was also precisely described and depicted by RÖMER (1871) p. 57 and 1870 pl. 16 figs. 1–3. RÖMER pl. 3 also reproduced Chemnitz' original figure. However, *Tellina rosea* Spengler, 1798, is preoccupied by GMELIN (1791), which is distinct and likely an *Asaphis*.

BARTSCH (1915) disregarding the broad tellinid literature, considered this peculiar species as new and named it *Tellina albinella alfredensis*. He considered it as subspecies of the just external similiar South Australian *Tellinota albinella* (Lamarck, 1818). At least BARTSCH was the first with a precise type locality South Africa, Port Alfred.

BOSS (1969) recognized this species as valid as well, found that Spengler's preoccupied *T. rosea* is the same and corrected the type locality of the latter to Port Alfred. Unfortunately, BOSS overlooked ANTON (1838).

ANTON (1838) named this species earliest validly as *T. palliderosea*. Thus, CHEMNITZ' unavailable, but well fitting name can here be reinstated. *Tellina palliderosea* was validly proposed, Anton's name is not preoccupied and two unambiguous syntypes are present.

Even more interesting than the past is the future generic placement. Obviously, *Tellina* s. s. is marked distinct, well recognized by BERTIN (1878). *Tellinota* which is endemic South Australian does not fit either. BOSS (1969) placed *palliderosea* in *Eurytellina*. However, the respective Caribbean type species *T. punicea* is not particularly close either. All evidence point, that the endemic South African *palliderosea* merits a new generic placement.

For the time being it is placed as *Tellina s. l. palliderosea* Anton, 1838. The type locality is here designated as South Africa, Port Alfred. In South Africa it is moderately common, living shallowly in sand, reaching almost 85mm.

Mactra cojimbensis Anton, 1837

Fig. 5, A, B

p. 282, N° 4

Original description: „Texta ovali-trigona, solida, subantiquata, transverse subtiliter, longitudinaliter subtilissime striata; dentibus lateralibus brevibus, laevibus; intus alba, extus albida cum epidermide ferruginea. Long. 1" 4"', Lat. 1" 9"'."
Type locality: Cojimbo (= Chile, Coquimbo)
Collection number: MTD Moll 7277 (stored as *Mulinia edulis* King)
Only right valve is preserved.
Height of the valve: 35,2 mm.
Length of the valve: 45,5 mm.

Fig. 5. *Mactra cojimbensis* Anton, 1837, holotype. Right valve, height 35,2 mm, length 45,5 mm.

In the hand-written inventory of his collection Anton listed only one specimen of *Mactra cojimbensis* with measures of 1'' 9''' and 1'' 4''' Rhenich inches (one Rhenich inch is corresponding to 26,148 mm) and the "fatherland" Cojimbo. So we were able to identify the holotype.

Shape, pallial sinus and characteristic hinge conform well to typical forms of *Mulinia edulis* (King & Broderip, 1832) from South America. As curated, *Mactra cojimbensis* Anton, 1838 is a further junior synonym of this broadly distributed variable species.

Mactra coquimbana Philippi, 1893, also described from Chile, Coquimbo, is a higher and slightly larger form, but undoubtedly a *Mulinia* as well.

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